

WHAT IS CLAIMED IS:

1. An ink jet ink composition comprising one or more organic solvents, an acidic resin, a polyamine, an opaque pigment, and a hydrophobic conductive agent.
2. The ink jet ink composition of claim 1, wherein the opaque pigment is an opaque organic pigment.
3. The ink jet ink composition of claim 2, wherein the opaque organic pigment is an opaque yellow organic pigment.
4. The ink jet ink composition of claim 3, wherein the opaque yellow organic pigment is C.I. pigment yellow 139.
5. The ink jet ink composition of claim 1, wherein the one or more organic solvents are selected from the group consisting of ketones, alcohols, esters, ethers, amides, and any combinations thereof.
6. The ink jet ink composition of claim 1, wherein an organic solvent is methyl ethyl ketone.
7. The ink jet ink composition of claim 1, wherein the acidic resin comprises carboxyl functionality.
8. The ink jet ink composition of claim 1, wherein the acidic resin has an acid number of from about 50 to about 250 mg of KOH/g of the resin.
9. The ink jet ink composition of claim 8, wherein the acidic resin has an acid number of from about 100 to about 200 mg of KOH/g of the resin.
10. The ink jet ink composition of claim 8, wherein the acidic resin is an acrylic resin.
11. The ink jet ink composition of claim 10, wherein the acrylic resin is a copolymer of styrene, alpha methyl styrene, and acrylic acid.
12. The ink jet ink composition of claim 1, wherein the polyamine is a polyethyleneimine.

13. The ink jet ink composition of claim 1, wherein the hydrophobic conductive agent comprises a cation selected from the group consisting of tetraalkylammonium, tetraarylammonium, tetraalkylphosphonium, tetraarylphosphonium, and any combinations thereof, and an anion selected from the group consisting of hexafluorophosphate, tetrafluoroborate, tetraalkylborate, tetraarylborate, and any combinations thereof.

14. The ink jet ink composition of claim 13, wherein the hydrophobic conductive agent is selected from the group consisting of tetrabutylammonium hexafluorophosphate, tetrapropylammonium hexafluorophosphate, tetraethylammonium hexafluorophosphate, tetramethylammonium hexafluorophosphate, tetrabutylammonium tetraphenylborate, tetrabutylammonium tetrabutylborate, tetrabutylammonium tetrafluoroborate, tetrapropylammonium tetrafluoroborate, tetraethylammonium tetrafluoroborate, tetramethylammonium tetrafluoroborate, and any combinations thereof.

15. The ink jet ink composition of claim 14, wherein the hydrophobic conductive agent is selected from the group consisting of tetrabutylammonium hexafluorophosphate, tetrapropylammonium hexafluorophosphate, tetrabutylammonium tetrafluoroborate, tetrabutylammonium tetraphenylborate, and any combinations thereof.

16. The ink jet ink composition of claim 15, wherein the hydrophobic conductive agent is tetrabutylammonium hexafluorophosphate.

17. The ink jet ink composition of claim 1, further comprising one or more of a humectant, a co-solvent, a co-resin, a defoamer, an adhesion promoter, a plasticizer, a dispersing agent, and a surfactant.

18. The ink jet ink composition of claim 17, wherein the co-solvent is ethanol.

19. The ink jet ink composition of claim 1, further comprising water.

20. The ink composition of claim 2, wherein the one or more organic solvents are present in an amount of from about 40% to about 90% by weight, the acidic resin is present in an amount of from about 2% to about 25% by weight, the polyamine is present in an amount of from about 0.05% to about 2% by weight, the opaque organic pigment is present in an amount of from about 2% to about 15% by weight, and the hydrophobic conductive agent is present in an amount of from about 0.1% to about 5% by weight of the ink composition.

21. A method of printing a mark on a substrate comprising directing a stream of droplets of the ink jet ink composition of claim 1 onto a substrate and controlling the direction of the droplets so as to form the mark on the substrate.

22. A method of printing a mark on a substrate comprising directing a stream of droplets of the ink jet ink composition of claim 2 onto a substrate and controlling the direction of the droplets so as to form the mark on the substrate.

23. The method of claim 21, wherein the substrate is glass.

24. The method of claim 22, wherein the substrate is glass.